What is claimed is:

1. Dye-in-polymer (DIP) medium for the recording layer of write-once-read-many (WORM) optical disks with fluorescent reading, containing:

- fluorescent dye, capable to absorb the recording laser radiation;
- compound, capable to generate free radicals as a result of decomposition under heating, induced by laser radiation absorption by fluorescent dye;
- film-forming polymer with high transparency, low heat conductivity and providing the necessary quantum output of the dye fluorescence.

2. DIP medium for the recording layer according to item 1, with the difference that its fluorescent dye is chosen from xanthene dyes of the eosin and rhodamine groups, acridine, Oxazine, azine, perylene, violanthrone, cyanine, phthalocyanine dyes, indigoide colors and porphyries. The content of fluorescent dye in the layer is equal to 0,1-10%.

3. DIP medium for the recording layer according to item 1, with the difference that its compound generating free radicals is chosen from azo-bisisobutyronitrile, p-bromobenzene diazohydroxide, triphenylmethylazibenzene and diazobenzoyl, nitrosoacetanilide and its derivatives; peroxides such as benzyl peroxide and its derivatives, tert-dibutyl peroxide, etc. The content of compound, capable to generate free radicals, in the recording layer is equal to 0,1-20%.

4. DIP medium for the recording layer according to item 1, with the difference that the film-making polymer is chosen from resins, such as cellulose esters, i.e. nitrocellulose, cellulose acetate, cellulose acetate butyrate; cellulose ethers, i.e. methyl cellulose, ethyl cellulose, butyl cellulose; vinyl resins, i.e. polyvinyl acetate, polyvinyl butyral, polyvinyl acetyl, polyvinyl alcohol and polyvinyl pyrrolidon; acrylic resins, i.e. polymethylmetacrylate, polybutyl acrylate, polymethacylic acid, polyacryl amid polyacrylonitrile.

5. DIP medium for the recording layer according to ~~item~~ CLAIM 1, with the difference that the recording layer also contains a non-fluorescent dye with an absorption spectrum range just slightly overlapping with the absorption and fluorescence spectrum ranges of the fluorescent dye and with the maximum absorption value being close to the recording laser wavelength.

6. DIP medium for the recording layer according to ~~item~~ CLAIM 1, with the difference that the recording layer also contains a non-fluorescent dye with an absorption spectrum range overlapping the absorption and/or fluorescence spectrum range of the fluorescent dye.

7. Method of obtaining a single-layer optical WORM disc, which proposes to dissolve the compounds described in item 1 in an organic solvent, chosen from alcohols, ketones, amides, sulfoxides, ethers, esters, halogenated aliphatic hydrocarbons or aromatic solvents, or to introduce the compounds into solvent as microcapsules less than 0,2 mkm in size, prepared by known methods, with future allocation of this composition by spin coating, roller coating or dip coating on the substrate, representing a glass, polymethylmethacrylate, polycarbonate or polyethylene terephthalate disc.

8. Method of obtaining a single-layer optical WORM disc, which proposes creation of a recording layer from two sub-layers, the lower sub-layer containing fluorescent dye, and the upper sub-layer containing the substance generating free radicals at high temperature.

9. Method of obtaining a single-layer optical WORM disc, which proposes creation of a recording layer from two sub-layers, the upper sub-layer containing fluorescent dye, and the lower sub-layer containing the substance generating free radicals at high temperature.

10. Method of obtaining a multilayer optical WORM disc by consecutive bonding of the single-layer discs one to another forming a multilayer system with two and more recording layers, in which recording layers alternate separating layers of substrate.